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INTERNATIONAL SOLAR TERRESTRIAL PHYSICS (ISTP) WIND MISSION

NC999967

TDS Mgr: J. P. Goodwin   Project Mgr: K. O. Sizemore (GSFC)
    NOPE: S. Wolf   MOM: R. Sanford (GSFC)
                                    L/V Range: Delta II 7925/ETR

Launch Date: December 1992
Projected SC Life/DSN Support: 24 months Prime (1-year ext.)/3 years

Project Responsibility: GSFC

Source: SIRD (GSFC) May 1990, Draft 2
Sponsor: ISAS-OSO

A.   MISSION DESCRIPTION

The launch of the WIND spacecraft will place the satellite into a sun-side apogee double-lunar swing-by orbit for a period of one year, after which WIND may be transferred to a Sun-Earth L1 Halo orbit.

B.   COVERAGE

The WIND spacecraft will carry a NASA standard users transponder and will normally communicate with the WIND ground facilities via a spacecraft Medium Gain Antenna (MGA) and the DSN S-band service. One 2.08-hour support interval each day will be required for receiving tape recorder playback data. Real-time telemetry for spacecraft and instrument-performance monitoring will be received on a subcarrier simultaneous with the tape recorder playback. Spacecraft commanding is required throughout this period with (TBD) minutes of ranging and range-rate support. The spacecraft requires that command support periods be no more than 36 hours apart during the prime mission.

The 26-meter DSN stations at Canberra, Goldstone, and Madrid are designated prime support stations, with the 34-meter standard subnet located at these facilities used for backup support, or when insufficient link margins exist in the mission orbit to acquire usable data.

The support provided by the DSN is indicated in the following table:

System	Goldstone		Canberra		Madrid	
	12,14,15,16		42,43,45,46		61,63,65,66	
S-band TLM	B	P	B	P	B	P
S-band CMD	B	P	B	P	B	P
S-band TRK	B	P	B	P	B	P

C.   FREQUENCY ASSIGNMENTS AND DATA RATES

System	Uplink	Downlink
S-Band CMD	2094.896 MHz	---
S-Band TLM	---	2275.000 MHz
S-Band TRK	2094.896 MHz	2275.000 MHz

D.   SUPPORT PARAMETERS

(1)   Telemetry
      Real time   5.565 kb/s   PCM(NRZ-L), Conv, R-S, BiØL,
                                         PSK, PM

                     11.3 kb/s   2 x RT at < 60 Re

      Subcarrier
      Playback   64 kb/s or   1.28 MHz sine wave
                     32 kb/s   PCM(NRZ-L), Conv, R-S, BiØL, PM

                     128 kb/s   at < 60 Re

(2)   Command
      Format   PCM/PSK/PM
      Bit rate   250 b/s
      Subcarrier Frequency   16 kHz
      Subcarrier Waveform   Sine

(3)   Ranging   DSN Standard